

International Humans in Space Symposium Youth Art Competition

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Emerging efforts and studies demonstrate that art plays a critical role in enhancing science, technology, engineering, and math (STEM) education, an important NASA and U.S. goal of great importance, given that current U.S. youth lag far behind other industrialized countries in math and science skills. Partnering science with art also encourages the development of creative and critical thinking, problem solving, and communication skills. These abilities are becoming increasingly necessary to ensure high performance in a rapidly changing global society. Thus, educational approaches combining space science topics with art could provide an effective method to inspire youth to seek education and careers in STEM-requiring fields, and to approach them innovatively and creatively.

In addition, the integration of science with art can provide a more effective outreach tool for youth and adults than using science alone. Prompting artistic expression with information about our current knowledge of human space exploration has the potential to reach a wide audience of youth. The resulting artwork can then be used as a communication tool to inspire even more people of all ages, enhancing awareness, interest, and support for human space flight. The artwork can also provide new ideas or renewed inspiration to those already working in the space industry. In the past, many of our science programs in human space exploration have been inspired by the works of artists.

An opportunity to test these education and outreach ideas arose in 2009 during the local planning for the 18th International Academy of Astronautics (IAA) Humans in Space Symposium, which was to be held in Houston in 2011. The theme of the Symposium was “Integration and Cooperation in the Next Golden Age of Human Space Flight.” The symposium organizing committee reasoned that while the current adult generation would do much of the planning for this golden age, the next generation would do much of the implementation. Thus, youth ought to be involved in the planning. To allow for this

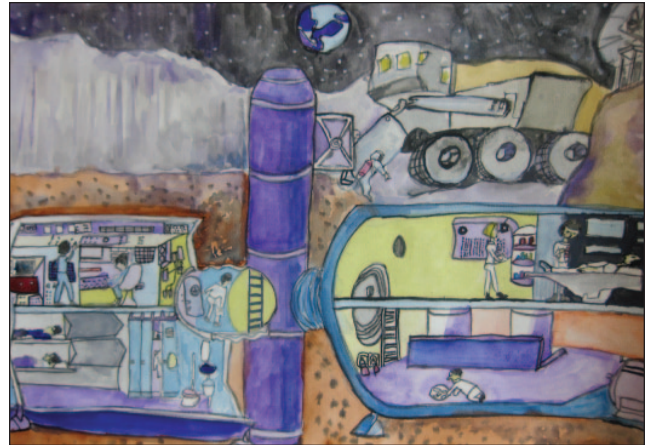


Fig. 1. Visual Artwork, ages 10-13:
a) *Moonworkers*, by Albert Choi, U.S.;
b) *B.E.A.M. Base Exploration Aboard Moon*,
by Emily Miedema and Abby Bull, Canada;
c) *Look at our New World*, by Chi Yin Yu, China.
(Images courtesy of authors.)

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continued

involvement, a Humans in Space Symposium Youth Art Competition was designed to engage young people from around the world in *thinking* about the future of human space flight, and to provide a means for them to *creatively communicate* their ideas to the symposium attendees. “Be Inspired, Be Creative and Be Heard” was the adopted tagline of the art competition, stressing the three main intentions of the activity.

The online international art competition invited youth, ranging in age from 10 to 17 years, to submit visual, literary, musical, and video art expressing “What is the future of human space exploration and why is it important?” The response by youth to the call for artwork was enormous: 550 art entries were received from 22 countries, distributed across five continents. (See examples of literary and visual artwork in figures 1-3.) An international panel of 71 judges—including artists, scientists, teachers, engineers, astronauts, and others—evaluated the art and provided scores and comments used to award prizes and certificates of recognition.

To ensure that adult symposium attendees were exposed to the creativity and messages of the youth artists, the best artwork was woven into a multimedia live performance using artwork of each submitted type. Together, four performance sets cohesively displayed how the youth artists addressed four questions: What is the future of human space exploration?; Why is it important?; How will it happen?; and Who will carry it out? In addition, the art was displayed throughout the week of the symposium, allowing adult attendees to continuously view the artwork. A few top winning artists from around the world were also invited to visit at the symposium and discuss with the attendees, in person, their vision for our future in space. After viewing the artwork, attendees said that they were deeply influenced by the thoughts, beauty, and intensity of the youth artwork. The hope is that this influence will be long lasting, and that the youth ideas may have a role in developing strategies for human space flight, giving



Fig. 2. Visual Artwork, ages 14-17:

a) *Cradle of Cosmos*, by Anastasia Pronina, Russian Federation;

b) *Future City in Space*, by Man Wai Leung, China;

c) *What's Your Horizon?*, by Mayisha Nakib, U.S.

(Images courtesy of authors.)

planners fresh ideas and new energy while helping them to learn what the next generation—the implementers of the future—believes is important for human space exploration.

The current intent is to use the artwork displays and performance products further as educational and outreach tools by exhibiting them at various venues, including classrooms, museums, space industry conferences, and NASA centers. The winning artwork is also displayed and viewable worldwide in an online gallery at <http://www.dsls.usra.edu/meetings/LAA/artContest/>. Placing the artwork online provides another means for the ideas and creativity of the youth to continue to inspire both generations of space explorers as they plan and carry out the future of human space flight.

The success of the youth art competition required the bridging of people from different generations, skill bases, and national affiliations. The project was performed as a partnership between the IAA, the NASA Human Research Program, the NASA Johnson Space Center Engineering Directorate, the Universities Space Research Association, and the University of Houston. Advertising, awards funding, and judging drew in additional partners from the commercial and educational sectors (including the International Association of Educators for World Peace, associated with the United Nations, the artistic and scientific disciplines, the space community worldwide, and more).

The art competition engaged many youth in a fun and absorbing manner to learn about past human space flight, and to think about the future of human space exploration. Products from the competition will become lasting educational and outreach tools that can be used continually to stimulate youth and adult interest and involvement in space science. Future projects that blend art and science should be created to promote youth education, original thinking, and communication of ideas, as well as outreach to multiple generations.

The Glorious Cavern

**The cavernous darkness abounds,
Rich with twinkling stars,
Like tiny pearls in an ocean of black.**

**Riddled with stars,
Dotted with planets,
Shrouded in mystery...**

**The depths of space never end,
Like an endless shawl studded with pearls
Wrapped around planets.**

**The layman stares,
The astronaut observes,
The child delights.**

**All with awe,
At the majesty,
And the mystery.**

**Nothing has intrigued man more than this
Black envelope
Addressed to all who wish to explore its mysteries.**

**From the exploits of Apollo 11,
To the ambitions of space agencies,
To the gleaming rockets probing the frontiers of the world.**

**The silvery craft nears the planet,
The astronauts breathless
With excitement and awe.**

**The ship breaks through the atmosphere,
Like a silver arrow piercing a membrane
And the humans are speechless.**

**The rocky landscape glows in the setting sun,
And the humans disembark,
Feeling more excited than they've ever had.**

**The sense of adventure,
To wonderful new realms...
Strange new planets.**

**Even as the fragile Earth,
Struggles from pollution,
We probe the universe...**

**For a new planet,
A new galaxy,
A new universe...A new home, a brand-new life.**

Fig. 3. The Glorious Cavern, Prannoiy Chandran, age 14, Singapore.